

Bulldog High School Academic Tournament 2020 (XXIX): scary vibes

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Packet 11 Tossups

1. **The correspondence principle describes how physical systems change as numbers described by this word become very large. A material's Hall conductance equals an integer divided by the von Klitzing constant in a version of the Hall effect known by this word. Ladder operators are used in this type of harmonic oscillator to move between (*) evenly spaced energy levels. The state of a system described by this word is encoded in a wave function, which must be a solution to the Schrödinger equation. For 10 points, give this word for a small discrete amount of something, whose probabilistic behavior is studied in a namesake 20th-century branch of "mechanics."**
ANSWER: **quantum** [accept **quantum** numbers or **quantum** Hall effect or **quantum** harmonic oscillator or **quantum** mechanics] <SE>

2. **In one painting, this painter depicted the East River from the 30th story of the Shelton Hotel. This painter, who created landscapes around Abiquiú, depicted the New York skyline in paintings including a nocturnal image of the *Radiator Building*. A white flower floats in a cloudy sky in this artist's (*) *Ram's Head and White Hollyhock*. This woman, who denied interpretations of erotic symbolism in her *Red Canna* series, used calico roses and red, white, and blue in depictions of cow skulls. For 10 points, name this artist who worked in New Mexico and painted several provocative flowers.**
ANSWER: Georgia **O'Keeffe** <JW>

3. **Words of this type in many Romance languages are formed with a suffix deriving from the Latin word for "mind." All words of this type in Esperanto end in *-e*, probably inspired by an identical suffix that—like *-iter*—ends some of these words in Latin. Phrases like "when I get back" are named for functioning like this part of speech. Some linguists argue that this part of speech shouldn't encompass words like (*) "not." Examples of these words in English include "here" and "soon," and Spanish constructs words in this part of speech with the suffix *-mente*. For 10 points, what part of speech does the word "cordially" belong to?**
ANSWER: **adverbs** [accept word forms] <JW>

4. **The Treaty of Wisconsin ended a civil war in this country called "the Thousand Days' War." In the 1990s, an inhabitant of this country illegally stocked his private zoo with a number of hippos, which have now become an invasive species. Ingrid Betancourt was abducted while campaigning for the presidency of this country. In this country, the assassination of Jorge Eliécer Gaitán sparked a conflict called (*) "La Violencia." A man who was nicknamed "Timochenko" led a revolutionary guerilla group in this country; that group, FARC, disarmed itself in 2017. For 10 points, name this country where Pablo Escobar directed the Medellín Cartel.**
ANSWER: Republic of **Colombia** [or República de **Colombia**] <MK>

5. In the *Aeneid*, when Aeneas' men "eat their tables," they actually eat this substance. The "Spirit of Evil" convinces a protagonist to urinate on his town's supply of this substance in the Isaac Singer story "Gimpel the Fool." In one story, the barber Ivan Yakovlevich finds the title object, which turns out to belong to Major (*) Kovalyov, in this substance; that story is "The Nose" by Nikolai Gogol. Jean Valjean goes to prison for stealing this substance, which Juvenal said placated the masses along with "circuses." "A Jug of Wine" and "Thou" accompany—for 10 points—what substance in Edward FitzGerald's *Rubaiyat of Omar Khayyam*?

ANSWER: **bread** [or loaf of **bread**; or *panem*; accept particular kinds of bread, including **flatbread**, **challah**, and **morning roll**] <MK>

6. This man analyzed a neighboring country's military leadership in the book *The Enemy's House Divided*, which he wrote while a prisoner of war. During a crisis, this man covertly decamped to the spa town of Baden-Baden to consult a general. This man was targeted in several assassination attempts by the OAS, including one by (*) Jean Bastien-Thiry. This man's authority was diminished when student protests broke out in his capital in May 1968. This man signed the Evian Accords, granting Algeria its independence. For 10 points, what founder of the French Fifth Republic also led Free French forces during World War II?

ANSWER: Charles **de Gaulle** <MK>

7. Late in his career, this musician played songs like "Fleurette Africaine" with Charles Mingus and Max Roach on the album *Money Jungle*. Trumpeter Bubber Miley cowrote this musician's song "East Saint Louis Toodle-oo." This musician's band was sometimes known as the Harlem Footwarmers or the Jungle Band. This man recorded "Creole (*) Love Call" in 1927, when his band became the house band at the Cotton Club. Before starting his collaboration with Billie Strayhorn, this man wrote songs like "In a Sentimental Mood" and "It Don't Mean a Thing (If It Ain't Got That Swing)." For 10 points, name this jazz pianist behind songs like "Mood Indigo" and "Take the 'A' Train."

ANSWER: Duke **Ellington** [or Edward Kennedy **Ellington**] <BCE>

8. This poem describes a sound vanishing "down the vast edges drear / and naked shingles of the world." This poem's unnamed addressee is told to "Come to the window!" because "sweet is the night-air," and it describes how the "world" falsely appears "so various, so beautiful, so new." This poem's narrator hears the "Sea of Faith" produce a (*) "melancholy, long, withdrawing roar." In this poem, "the grating roar / of pebbles" brings "the eternal note of sadness in." This poem opens with the statement "the sea is calm tonight." For 10 points, name this Victorian poem about a place where "the cliffs of England stand," written by Matthew Arnold.

ANSWER: "**Dover Beach**" <MK>

9. In Turkey, this substance is mixed with water and salt to produce the beverage *ayran*. So-called "Greek" chicken uses this substance as the bulk of its marinade. This substance is mixed with cucumber and mint to produce the South Asian condiment *raita*. This substance is mixed with (*) spices, water, and sometimes fruit to produce a *lassi*. This substance is the central ingredient of tzatziki. A strained, protein-rich variety of this substance is marketed in the United States as "Greek" style. For 10 points, name this goop produced when cultures like *L. bulgaricus* and *S. thermophilus* ferment milk.

ANSWER: **yogurt** [or **curd**, or **dahi**] <JW>

10. **Lack of FMRP, a protein associated with intellectual disability, is caused by a methylation-inducing repeat on this structure. The RNA genes *Jpx* and *Ftx*, as well as the long noncoding RNA X-IST [Exist] are involved in one process involving this structure. The calico coloring of some cats results from (*) lyonization of these structures into Barr bodies. A “fragile” version of this chromosome can cause developmental problems, while monosomy of it leads to Turner’s syndrome. This chromosome is “linked” with color-blindness and hemophilia. For 10 points, name this non-Y sex chromosome, two of which normally yield a “female” phenotype.**

ANSWER: X chromosome [accept **Fragile X** syndrome before “this structure” in the first line; prompt on chromosome before “chromosome”; prompt on sex chromosome before “sex chromosome”] <HK>

11. **During this battle, one army made a last stand at the “Bloody Gorge.” During this battle, Hill 382 was dubbed “The Meat Grinder” due to the heavy casualties sustained in taking it. A book by James Bradley tracks how six men, including his father and Ira Hayes, arrived to this battle. Before this battle, General Kuribayashi forbade *banzai* charges and constructed an extensive (*) tunnel system. Most of the fighting at this battle centered on Mount Suribachi, which was the site of a famous photograph by Joe Rosenthal. For 10 points, name this 1945 battle in World War II’s Pacific Theater where six Marines were photographed raising a flag.**

ANSWER: Battle of Iwo Jima <MK>

12. **In 1868, this state’s capital dropped the word “Great” from its name. Capitol Reef National Park is located in this state, which in 2006 changed its license plates to read “Life Elevated,” in reference to the Wasatch Range. This state’s Rice-Eccles Stadium played host to the 2002 Winter Olympics. In this state, structures called (*) hoodoos can be found in Bryce Canyon and Arches National Park. Zion National Park is located near this state’s southern border with Arizona. For 10 points, name this state where the Church of Latter-day Saints owns Temple Square in the center of Salt Lake City.**

ANSWER: Utah <JS>

13. **This was the first planet to be explored by *Voyager 2* that had not been previously visited by *Voyager 1*. Urbain le Verrier predicted the existence of this planet’s neighbor based on anomalies in this planet’s orbit. The poles of this planet experience a cycle of 42 years of continuous sunlight followed by 42 years of darkness. Shakespearean characters like (*) Oberon and Titania name this planet’s moons and its axis is oriented 90 degrees from the ecliptic. This planet with a retrograde orbit and the coldest atmosphere in the solar system was discovered by William Herschel. For 10 points, name this gas giant, the second-farthest from the sun after Neptune.**

ANSWER: Uranus <JW>

14. **A poet with this surname wrote “In the Jewish Synagogue at Newport,” as well as a poem that describes a “flame” as “the imprisoned lightning.” A poem about a figure of *this name* instructs “Herr God” and “Herr Lucifer” to “beware” and states “I rise with my red hair and I eat men like air.” A poet with this surname wrote a poem beginning “not like the (*) brazen giant of Greek fame.” A poem titled for a “Lady” of *this name* was written by Sylvia Plath. A poet with this surname described “huddled masses” in a sonnet that now adorns the Statue of Liberty, “The New Colossus.” For 10 points, give this name of a biblical figure whom Jesus raised from the dead.**

ANSWER: Lazarus [or Emma Lazarus, or “Lady Lazarus”] <JW>

15. To decorate these structures, architects used *muqarnas* that originally developed from supportive squinches. A major pendentive type of these structures exists in a building designed by Isidorus of Miletus. A sacred building named for a gold-covered one of these structures is located on (*) Temple Mount in Jerusalem. One of these structures designed by Brunelleschi sits atop Florence's Cathedral. The roof of St. Basil's Cathedral in Moscow is decorated with numerous colorful structures of this type. For 10 points, name these architectural structures commonly found on the roofs of mosques.

ANSWER: domes <HK>

16. In the Thai Forest Tradition, this action is guided by 40 objects called the *kammaṭṭhāna* [KAM-a-than-a]. The New Burmese Method popularized this practice for the laity with the *Vipassanā* movement. In a gesture of this practice called the *dhyāna mudrā*, the (*) palms are placed in the lap facing upwards, forming a triangle with the fingers. A form of this practice called *zazen* is performed while focusing on *koans*. According to tradition, the Buddha gained enlightenment while performing this practice under a bodhi tree. For 10 points, name this Buddhist practice of relaxation and introspection.

ANSWER: Buddhist meditation <AY>

17. This character wakes up in a Department of Damage Control warehouse after being knocked out by Adrian Toomes. This character gains new weapons and an A.I. named "Karen" after his friend deactivates a program called "Training Wheels." To avoid his secret identity being revealed while he is in (*) Europe, this character adopts the false name "Night Monkey" while fighting along Mysterio. This character told Iron Man "I don't feel so good" before turning to dust in *Avengers: Infinity War*. In recent Marvel movies, Tom Holland plays—for 10 points—what web-slinging superhero?

ANSWER: Spider-Man [accept Peter Parker; prompt on Peter; prompt on Night Monkey before mentioned] <BY>

18. One model of this quantity treats solids as a collection of harmonic oscillators with the same frequency, but it fails to predict the low-temperature behavior of this quantity. A constant symbolized as gamma is the ratio of two forms of this quantity, one measured at constant pressure and the other measured at constant volume. Pressure multiplied by volume raised to that (*) adiabatic index holds constant for an adiabatic process. Bomb calorimeters can measure this value, which for water is 4.18 joules, or one calorie per gram per Kelvin. For 10 points, identify this value, the amount of heat needed to raise the temperature of a substance by one degree Celsius.

ANSWER: heat capacity [accept forms including specific heat capacity and molar heat capacity; prompt on C_p or C_v] <MP/HK>

19. Athens' cemetery was located in a quarter of the city named for this product. In the classical period, some Romans disposed of this product at an artificial mound called Monte Testaccio. Some cultures used "coiling" to produce this product. Athenians expelled citizens for ten years by writing votes on pieces of this product called (*) *ostraka*. In the Mediterranean, the "red-figure" style supplanted the "black-figure" style for decorating this product. Examples of this product called *amphorae* were used to store olive oil and wine. For 10 points, name this product created when clay is shaped on a revolving wheel, then fired in a kiln.

ANSWER: pottery [accept ceramics; accept vases, urns, jars, pots, or any more specific answer] <MK>

20. **The narrator of one work doesn't understand why he first climbs down and then climbs up while leaving this place; in that work, this place's inhabitants include Bertran de Born and Muhammad. In another depiction, this place contains a malfunctioning bell and is furnished in (*) Second Empire style.** By one account, the frozen lake Cocytus [koh-kai-tus] and the city of Dis are both contained in this place. After a valet with no eyelids assures him there are no "racks and red hot pincers" here, Garcin eventually concludes that this place "is other people." Sartre's *No Exit* is set in, for 10 points, what location through which Vrgil guides Dante in the *Inferno*?
ANSWER: **hell** [or the **underworld** or equivalents; accept the **room** in *No Exit* until it is read; accept **Inferno** until it is read; prompt on **afterlife** or equivalents] <DS>

Tiebreaker

The only member of this family to occur outside the Americas is *Rhipsalis baccifera*, which grows in Sri Lanka. Some members of this family produce small hair-like structures called glochids which grow on specialized branches known as areoles. One species of this family frequently has holes in it made by (*) Gila woodpeckers; that species also has internal pleats and expandable ribs which can absorb hundreds of gallons of water. One genus in this family is called the "Christmas" variety due to its winter flowering habits and colorful flowers. For 10 points, identify these plants which have adapted to extremely dry environments and frequently have spines.

ANSWER: **cacti** [or **cactus**; or **Cactaceae**] <DR>

Bonuses

1. A narrow valley that saw heavy fighting during this war was dubbed the “bowling alley.” For 10 points each:
[10] Name this war where forces under Douglas MacArthur staged an amphibious landing at Inchon to assault Communist forces. Seoul changed hands four times during this war.

ANSWER: **Korean War** [accept **Fatherland Liberation War**]

[10] During the war, U.N. pilots also referred to the northwest of Korea as “[these planes] Alley,” since Americans F-86 Sabres often encountered Soviet aircraft there.

ANSWER: “**MiG Alley**” [accept **MiG-15**; accept **Mikoyan-Gurevich** (MiG-)15]

[10] Prior to the war, the border between North and South Korea fell along this specific geographical boundary. The modern Korean Demilitarized Zone intersects this line of latitude.

ANSWER: **38th parallel** [or **38° North**] <JS>

2. This band once asked us if we were human or dancer. For 10 points each,

[10] Name this band which included songs like “When You Were Young” on the album *Sam’s Town* and “Somebody Told Me” on the album *Hot Fuss*.

ANSWER: The **Killers**

[10] This Killers hit begins with the lines “Coming out of my cage and I’ve been doing just fine.” Later on, the speaker of the song laments that “It started out with a kiss, how did it end up like this?”

ANSWER: “**Mr. Brightside**”

[10] The outro to Mr. Brightside simply repeats this two-word phrase 5 times. Each time the singer sings this phrase, he changes the intonation, supposedly to represent the 5 stages of grief.

ANSWER: “**I never**” <BY/HK>

3. This object shocks the Milford congregation when it is first worn, causing several women to leave the meeting-house. For 10 points each:

[10] Identify this object that Reverend Hooper wears in a short story from the collection *Twice-Told Tales*. This object, made from two folds of crepe, causes children to flee in fear.

ANSWER: the black **veil** [accept “The Minister’s Black **Veil**”]

[10] *Twice-Told Tales* was written by this American author, who wrote about Hester Prynne’s ostracism from the Boston congregation in *The Scarlet Letter*.

ANSWER: Nathaniel **Hawthorne**

[10] Hawthorne also wrote this short story, in which the title character encounters Deacon Gookin, Goody Cloyse, and his wife Faith at a devil-worshipping ceremony.

ANSWER: “**Young Goodman Brown**” <SL>

4. Answer some questions about naming conventions around the world, for 10 points each:

[10] Russia is one of many places where this kind of name is used. An example is “Arkadyevna” in the name “Anna Arkadyevna Karenina,” which signals that Anna’s father was named Arkady.

ANSWER: **patronymic**

[10] This naming convention, the norm in East Asia, is unusual in the Western world; this has resulted in some confusion, like Japanese leader Abe Shinzo being widely referred to as “Shinzo Abe.” A description is fine.

ANSWER: one’s **family name coming first** [or **given name coming second**, or anything like **last name first**, or any other reasonable description]

[10] This religion is unusual in that, upon initiation, its members adopt a “Khalsa name” that frequently replaces their surname. Women of this religion take the name Kaur, or “princess,” while men take a name meaning “lion.”

ANSWER: **Sikhism** <JW>

5. In colder climates, these entities undergo spring and fall turnover when the temperature reaches 4°C. For 10 points each:

[10] Identify these natural features which often stratify based on temperature and can be classified by how frequently their layers of water mix.

ANSWER: **lakes** [accept **ponds**]

[10] Spring and fall turnover usually increase this quantity in lake water, which can be measured with the Secchi Disk test. This quantity is determined by the amount of suspended sediment in the water.

ANSWER: **turbidity** [prompt on **clarity** or **transparency**]

[10] The Secchi disk test is commonly used to measure eutrophication, wherein oversupply of nutrients to a lake's water leads to namesake "blooms" of these organisms which come in brown, green, and red types.

ANSWER: **algae** [or **algal bloom**, or **phytoplankton**] <DR>

6. A female artist from this movement served food on the body of a nude woman in her *Spring Banquet*, though she later left the movement after seeing André Breton's reproduction of her performance piece. For 10 points each:

[10] Name this 20th century art movement, whose members included Meret Oppenheim and Salvador Dalí.

ANSWER: **Surrealism** [accept word forms]

[10] Name this material, which Oppenheim used to cover a teacup, saucer, and spoon in her most famous work, *Le Déjeuner en [this material]*. Oppenheim sold metal cuffs incorporating this material to designer Elisa Schiaparelli.

ANSWER: Chinese gazelle **fur** [or **fourrure**]

[10] Oppenheim was paid only \$50 for her *Le Déjeuner en fourrure* by this art museum, making Oppenheim the first woman to have a work acquired by this museum. This museum is also home to Dalí's *The Persistence of Memory*.

ANSWER: The **Museum of Modern Art** [accept "the **MoMA**"] <AY>

7. A member of this family sparked an uprising by killing Pedro Chamorro, the editor of the opposition paper *La Prensa*. For 10 points each:

[10] Name this family that dominated Nicaraguan politics beginning in 1936. Anastasio, the last of its three members to be president, was ousted in 1979.

ANSWER: **Somozas** [accept Anastasio **Somoza** (Debayle)]

[10] This Nicaraguan socialist political party overthrew Anastasio Somoza. This party waged a war against the U.S-backed Contras during the 1980s.

ANSWER: **Sandinista** National Liberation Front [or **Sandinistas**; accept Frente **Sandinista** de Liberación Nacional; accept **FSLN**]

[10] A member of this organization, Ernesto Cardenal, served as Nicaragua's Minister of Culture after Anastasio Somoza's ouster. A leader of this organization, John Paul II, visited Nicaragua in 1983, worsening the Contra War.

ANSWER: Roman **Catholic** Church <ZA>

8. The Kumano "Ten Worlds Mandala" depicts this place, featuring a blood pool designed specifically for women. For 10 points each:

[10] Name this place of punishment. Buddhist texts describe this place as being divided into eight hot and eight cold regions.

ANSWER: **hell** [accept **Naraka** or **Jigoku**]

[10] In this Buddhist school, practitioners believe that they can be reborn into a namesake western paradise by repeating the *nembutsu*, which is simply the name of Amitabha.

ANSWER: **Pure Land** Buddhism [prompt on **Mahayana** Buddhism]

[10] Salvationist Buddhist schools like Pure Land arose in Japan during this shogunate. Members of the Hōjō clan held the office of *shikken* for the majority of this shogunate.

ANSWER: **Kamakura** shogunate [accept **Kamakura** bakufu] <AY>

9. In a play, this woman signs her letters as “Delia” in an attempt to woo Sir Lucius. For 10 points each:

[10] Name this dramatic character, who calls Jack Absolute “the very *pine-apple* of politeness” when she actually means “pinnacle.” She also says Jack’s “*physiognomy* [is] so grammatical,” intending to say “phraseology.”

ANSWER: Mrs. **Malaprop**

[10] Mrs. Malaprop, Jack Absolute, and Lydia Languish all appear in *The Rivals*, a play by this playwright. This playwright also wrote *The School for Scandal*.

ANSWER: Richard Brinsley (Butler) **Sheridan**

[10] Sheridan’s *The Rivals* premiered at this city’s Covent Garden Theatre. The Lord Chamberlain’s Men played in this city’s Globe Theatre.

ANSWER: **London** <MK>

10. This movement’s name may have been inspired by Henri Rousseau’s *The Hungry Lion Throws Itself on the Antelope*, though Rousseau himself was not considered an artist of this movement. For 10 points each:

[10] Name this early twentieth-century art movement, whose name derives from a French word for “wild beast.” Co-founded by André Derain, it emphasized gestuality and bright color.

ANSWER: **Fauvism**

[10] This painting was at the center of the initial controversy surrounding Fauvism. It represented the painter’s wife, Amélie, with a green face, and the title object is unusually large and mostly blue.

ANSWER: *Woman with a Hat* [or *La femme au chapeau*]

[10] *Woman with a Hat* is the work of this other co-founder of Fauvism, who also painted *Luxe, Calme, et Volupté* and a circle of red nude figures holding hands in *The Dance*.

ANSWER: Henri **Matisse** <JW>

11. Sadiq Khan succeeded this politician in a position that he had held until 2016. For 10 points each:

[10] Name this former mayor of London who may have illegally given special treatment to Jennifer Arcuri, an American businesswoman with whom he had an affair.

ANSWER: Boris **Johnson** [or Alexander Boris de Pfeffel **Johnson**; accept **BoJo**]

[10] One of Johnson’s major acts since becoming Prime Minister of the U.K. in July 2019 has been to successfully orchestrate this withdrawal process, which was set in motion by British citizens in a 2016 referendum.

ANSWER: **Brexit** [accept any answer indicating **Britain** or the **United Kingdom** leaving the **European Union**]

[10] A major opponent of Brexit was this politician, the former leader of the Liberal Democrats who stepped down in December 2019.

ANSWER: Jo **Swinson** <JS>

12. Every chemist knows that instead of smelling chemicals directly, you should waft them in order to avoid breathing in these things. For 10 points each:

[10] Name these dangerous vapors given off by volatile substances which often smell strongly. Lab work involving these vapors is performed under a namesake “hood” which has a closeable sash and maintains constant ventilation.

ANSWER: **fumes** [accept **fume** hood]

[10] A “fuming” variety of this acid is called oleum. This diprotic acid formerly called “oil of vitriol” is synthesized by the contact process.

ANSWER: **sulfuric acid** [accept **H2SO4**]

[10] “Fuming” nitric acid comes in a white variety and a variety in this other color, though the variety described by this color is more dangerous as it contains dinitrogen tetroxide. It’s also the color of a form of elemental phosphorus.

ANSWER: **red** [accept **red** fuming nitric acid or **red** phosphorus] <MP>

13. The Zero Lower Bound Problem occurs when this quantity becomes too low. For 10 points each:

[10] Name this quantity. Types of this quantity include the LIBOR and the Federal Funds rate.

ANSWER: **interest** rate

[10] This economist names an equation used to predict interest rates under inflation. That equation states that nominal interest equals real interest plus inflation.

ANSWER: Irving **Fisher**

[10] An inversion in interest rates is a strong predictor of this economic phenomenon, one of which occurred following a housing crisis in 2008. This occurs when there are 2 successive quarters of economic slowdown.

ANSWER: **recession** [accept the **Great Recession**] <BY>

14. A gold scarab inscribed with this person's name was discovered in the Uluburun shipwreck off the coast of Turkey. For 10 points each:

[10] Name this person, whose name means "the beautiful one is come." In a bust that is now on display in Berlin's Neues Museum, this person wears a tall blue hat and lacks a left eye.

ANSWER: Neferneferuaten-**Nefertiti**

[10] This husband of Nefertiti was a pharaoh of the 18th Dynasty of Egypt. This pharaoh introduced the monotheistic worship of the sun-disk Aten.

ANSWER: **Akhenaten** [or **Amenhotep IV**; prompt on **Amenhotep**]

[10] Akhenaten was the father of this "boy pharaoh," who may have died in a chariot accident. Restoration of this pharaoh's sarcophagus began in July 2019.

ANSWER: **Tutankhamun** [or King **Tut**; or **Tutankhaten**] <MK>

15. This theory found early success by explaining a previously anomalous fraction of the precession of Mercury's perihelion. For 10 points each:

[10] Name this physical theory, according to which gravity is the result of the warping of spacetime by the presence of massive objects.

ANSWER: **general relativity** [or **GR**; or **general** theory of **relativity**; prompt on **relativity**; do not accept or prompt on "special relativity" or "SR"]

[10] Experimental confirmation of general relativity came in 1919, when Arthur Eddington measured the bending of starlight that passed near the Sun during the totality of one of these Sun-Moon alignments.

ANSWER: total solar **eclipse**

[10] On-going experiments aim to test the "strong" form of this tenet of general relativity. Its "weak" form, tested with a torsion balance by Loránd Eötvös [et-vuush], states that an object's inertial and gravitational masses are equal.

ANSWER: **equivalence principle** [accept weak **equivalence principle** or strong **equivalence principle** or Einstein **equivalence principle**] <SE>

16. Answer the following about female African authors with complicated relationships to mainstream feminism, for 10 points each:

[10] This South African author refused to accept a nomination for the female-only Orange Prize for Fiction, stating it was discriminatory for excluding men. A novel by this author centers on the Smales family.

ANSWER: Nadine **Gordimer**

[10] Chimamanda Ngozi Adichie, author of the essay "We Should All Be Feminists," came under fire for comments implying that this group of women, who were assigned male at birth, are not real women.

ANSWER: **transgender** women

[10] Praised by feminists for her novel *The Golden Notebook*, this British-Zimbabwean novelist later condemned "clever, powerful women" for advancing women's rights "at the cost of men."

ANSWER: Doris **Lessing** <MGS>

17. Answer the following about currently active female conductors, for 10 points each:

[10] In 2001, Andrea Quinn became the first woman to become the creative director of *this* city's ballet company, which was founded by Georges Balanchine. This city's music venues include Lincoln Center and Carnegie Hall.

ANSWER: **New York** City [accept **NYC**]

[10] Baltimore Symphony music director Marin Alsop has become particularly well-known for recording works like the *Kaddish Symphony* by this composer, who himself led the New York Philharmonic during the 1960s.

ANSWER: Leonard **Bernstein**

[10] In 2019, Mirga Gražinytė-Tyla [grah-ZHIN-ee-teh TEE-lah], the director of *this* English city's orchestra, became the first female conductor to sign a recording deal with Deutsche Grammophon. Sir Simon Rattle got his start conducting this city's orchestra.

ANSWER: **Birmingham** [accept **City of Birmingham** Symphony Orchestra] <AY>

18. A novel in this language narrates all of its odd-numbered chapters in the second person. For 10 points each:

[10] Name this language of Italo Calvino's *If on a Winter's Night a Traveler*. Elena Ferrante's four-novel series in this Romance language is primarily set in Naples.

ANSWER: **Italian**

[10] This Italian-language novel is divided into seven days, with each day further subdivided into periods of liturgical hours. In this novel William of Baskerville investigates a sequence of murders in a Benedictine abbey.

ANSWER: **The Name of the Rose** [or **Il nome della rosa**; by Umberto Eco]

[10] In the end, William of Baskerville learns that the monk Jorge of Burgos poisoned the pages of a copy of the second book of Aristotle's *Poetics* because it addresses this subject, which Jorge hates.

ANSWER: **comedy** [or **laughter**] <MK>

19. In these organs, renin cleaves angiotensinogen to angiotensin I, which is then converted to angiotensin II by the enzyme ACE. For 10 points each:

[10] Name these organs which produce surfactant. These organs are surrounded by the pleural membranes.

ANSWER: **lungs**

[10] Angiotensinogen II constricts blood vessels to increase this quantity regulated by the renin-angiotensin system. This value in adults should not exceed 120/80 and is measured using a steadily-inflating cuff around the upper arm.

ANSWER: **blood pressure** [prompt on **BP** or **pressure**]

[10] Angiotensin II also stimulates the release of this hormone from the adrenal cortex, further increasing blood pressure. This hormone regulates the homeostasis of sodium and potassium levels in the body.

ANSWER: **aldosterone** <HK>

20. Members of one of these institutions struck in the "Great Dispersion" of 1229. For 10 points each:

[10] Name these institutions where men like Albertus Magnus worked. The oldest continuously-operating one of these institutions was founded in Bologna in 1088.

ANSWER: **universities** [or **university**; or **colleges**; prompt on "school"]

[10] Albertus Magnus taught at a university in this city. This city's major university, the Sorbonne, divided students into four "nations" according to their regions of origin.

ANSWER: **Paris**

[10] Medieval universities often followed this curriculum, which consisted of astronomy, geometry, arithmetic, and music. It complemented an earlier curriculum made up of grammar, rhetoric, and logic.

ANSWER: **quadrivium** <MK>

Tiebreaker

Some of these people became *neodamodeis* by serving in the army. For 10 points each:

[10] Name these people, who possessed fewer rights than *perioikoi*. These people could be indiscriminately killed by graduates of the *agoge* who served in the *krypteia* secret police.

ANSWER: **helots**

[10] Helots provided the labor for this Greek city-state. This city-state's military strength enabled its victory over Athens in the Peloponnesian War.

ANSWER: **Sparta**

[10] During the Peloponnesian War, Athens led this alliance of city-states against Sparta. This alliance's treasury was originally located on a namesake island in the Aegean Sea.

ANSWER: **Delian League** [accept **Delos**] <MK>